WHAT IS CLAIMED IS:

1. A method of forming an active region, comprising the steps of:

applying a mask layer to an active layer;

patterning the mask layer to expose areas of the active layer;

etching the exposed areas of the active layer; and

oxidizing exposed areas of the active layer.

2. The method of claim 1 wherein the active layer is an active layer of a silicon-on-insulator wafer.

3. The method of claim 1 wherein the step of etching includes partially removing the active layer of the exposed areas.

4. The method of claim 1 wherein the active layer is about 200 Å to about 1000 Å in thickness and the step of etching includes partially removing the active layer in the exposed areas.

5. The method of claim 1 wherein the mask layer is about 10 Å to about 1500 Å in thickness.

6. The method of claim 1 wherein the step of etching includes leaving substantially unetched the active layer.

7. The method of claim 1 wherein the active layer is about 25 Å to about 400 Å in thickness and the step of etching includes the step of removing the mask layer such that substantially all of the active layer remains.

8. The method of claim 1 wherein the mask layer comprises a material selected from the group consisting of oxide, silicon dioxide, silicon nitride, silicon oxynitride, high-K dielectric, or a combination thereof.

9. The method of claim 1 further comprising the step of removing the mask on the active layer after partially removing the active layer in the exposed areas.

10. The method of claim 1 wherein the active layer is formed from a material selected from the group consisting of silicon, germanium, silicon-germanium, and combinations thereof.

11. The method of claim 1 wherein the step of oxidizing is performed at about 700° C to about 1200° C.

12. The method of claim 1 wherein the step of oxidizing is performed by one or more steps of annealing by a furnace anneal or rapid thermal anneal process.

13. The method of claim 1 wherein the step of oxidizing is performed by one or more steps of annealing by a furnace anneal or rapid thermal anneal process at a temperature about 500° C to about 1250° C.

14. The method of claim 1 wherein the step of oxidizing creates an oxidation layer about 25 Å to about 800 Å in thickness.

15. The method of claim 1 wherein the step of oxidizing is performed with an ambient content comprising O_2, H_2O, NO, or some combination thereof.

16. A method of forming an active region, comprising:

applying a mask layer onto a silicon-on-insulator (SOI) wafer, the SOI having a substrate layer, an insulator layer, and an active layer;

patterning the mask layer to expose areas of the active layer;

etching the SOI wafer such that the exposed areas of the active layer are partially removed; and

oxidizing the SOI wafer such that exposed areas of the active layer are oxidized.

17. The method of claim 16 wherein the active layer is about 200 Å to 1000 Å in thickness.

18. The method of claim 16 wherein the step of patterning the mask layer is performed by utilizing a photoresist.

19. The method of claim 16 wherein the mask layer comprises a material selected from the group consisting of oxide, silicon dioxide, silicon nitride, silicon oxynitride, high-K dielectric, or a combination thereof.

20. The method of claim 16 wherein the mask layer comprises a silicon dioxide layer about 10 to 200 Å in thickness and a silicon nitride layer about 20 to 1000 Å in thickness.

21. The method of claim 16 wherein the step of oxidizing is performed at about 500° C to about 1250° C.

22. The method of claim 16 wherein the step of oxidizing is performed with an ambient content comprising O_2, H_2O, NO, or some combination thereof.

23. The method of claim 22 wherein the step of oxidizing is performed by one or more steps of annealing by a furnace anneal or a rapid thermal anneal process at a temperature about 500° C to about 1250° C.

24. The method of claim 16 further comprising the step of removing the mask after etching the active layer.

25. The method of claim 16 wherein the active layer is formed from a material selected from the group consisting of silicon, germanium, silicon-germanium, and combinations thereof.

26. The method of claim 16 wherein the step of partially removing includes removing inactive areas of the active layer such that about 25 Å to about 400 Å of the active layer remains.

27. The method of claim 16 wherein the step of oxidizing results in an oxidation layer about 25 Å to about 800 Å in thickness.

28. A method of forming an active region, comprising:

applying a mask layer onto a silicon-on-insulator (SOI) wafer, the SOI having a substrate layer, an insulator layer, and an active layer;

patterning the mask layer to identify active regions and inactive regions;

etching the SOI wafer such that the inactive regions of the mask layer are removed and substantially all of the active layer remains; and

oxidizing the SOI wafer such that the inactive regions of the active layer are oxidized.

29. The method of claim 28 wherein the step of patterning the mask layer is performed by utilizing a photoresist.

30. The method of claim 28 wherein the mask layer comprises one or more layers comprising a material selected from the group consisting of oxide, silicon dioxide, silicon nitride, silicon oxynitride, high-K dielectrics, or a combination thereof.

31. The method of claim 28 wherein the mask layer comprises a silicon dioxide layer about 10 Å to about 200 Å in thickness and a silicon nitride layer about 20 Å to about 1000 Å in thickness.

32. The method of claim 28 wherein the active layer is about 25 Å to about 400 Å in thickness.

33. The method of claim 28 wherein the step of oxidizing results in an oxidation layer about 25 Å to about 800 Å in thickness.

34. The method of claim 28 wherein the step of applying a mask includes the step of applying a photoresist mask on the mask.

35. The method of claim 28 further comprising the step of removing the mask after etching the active layer.

36. The method of claim 28 wherein the active layer is formed from a material selected from the group consisting of silicon, germanium, silicon-germanium, and combinations thereof.

37. The method of claim 28 wherein the step of oxidizing is performed with an ambient content comprising O_2, H_2O, NO, or some combination thereof.

38. The method of claim 28 wherein the step of oxidizing is performed by one or more steps of annealing by a furnace anneal or a rapid thermal anneal process at a temperature about 500° C to about 1250° C.